# Information Superiority

## General

Information Superiority (IS) is the cornerstone of Army Transformation that provides Army Commanders an overwhelming competitive advantage throughout the electronic spectrum on current and future battlefields. This competitive advantage is accomplished through the use of our command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems to ensure the Army will dominate any battlefield through the full spectrum of military operations.

IS ensures the translation of raw information into superior knowledge through the integration of a network-based C4ISR and target acquisition systems-of-systems, enabling combat commanders to make and implement superior decisions more rapidly than their opposition. The Army Legacy, Interim, and Objective Forces will use the resulting superior information to achieve dominant maneuver, precision engagement, full dimensional protection, and focused logistics through the full spectrum of military operations, ensuring combat overmatch against any potential adversary, now and in the future.

In order to create an effective Objective Force, the Army must ensure the adequate investment of critical resources to develop and field advanced C4ISR systems. Without Information Superiority, the Army's current and future combat systems lose much of their competitive edge on the modern battlefield. The Army must balance cost effective modernization efforts with maintaining essential readiness of the current and interim force. Information Superiority is expensive, yet highly cost effective when dominating the modern battlefield and saving Soldiers' lives.

Although the Army considers Information Superiority to be an integrated capability, it is through the modernization of individual systems and programs that this capability is acquired. Fielding of modernized information systems is then implemented in accordance with Unit Set Fielding and Software Blocking guidelines. Adherence to these guidelines ensures that Information Superiority capabilities are fully interoperable between battlefield functional areas. The two primary Army functional areas that support the achievement of Information Superiority on the battlefield are Command, Control and Signal; and Intelligence and Electronic Warfare (IEW). Other functional areas that contribute key components to Information Superiority are Fire Support, Air Defense, Engineers, and Logistics.

Investment in Information Superiority will ensure the Army will be fully capable of winning our Nation's wars decisively and protecting our vital national interests in any environment in the world.

# Command, Control, and Signal Systems

## Overview

The Command, Control and Signal Systems provide Army Commanders the ability to fight and win our nations wars. These systems ensure the Army can prepare plans, execute operations, and share critical information through inter-netted communications capability within the Army and joint/coalition forces. These systems provide our tactical elements with transparent connectivity for voice, data, and video teleconference and communications systems throughout the operational spectrum.

Army modernization must ensure the synchronization of communications related efforts and a modernization strategy toward achieving IS across the full spectrum of potential missions—now and in the future. It protects the research, development, and procurement of key information systems and services for ensuring IS that supports the Army's Transformation efforts. In a capabilities-based force, IS is measured by the ability to make informed decisions faster, control forces more effectively and to sustain operations longer and faster than your opponent. The Army must fund appropriate levels of Command and Control and Signal systems to ensure the effective transformation toward the Objective Force. These systems must continue to be developed to be more deployable and lighter in supporting a smaller and more combat-effective force.

## Command, Control, and Signal Systems Modernization in Support of Transformation

Command, Control, and Signal Systems enable seamless, protected, survivable, integrated, and dynamic information services to the warfighter for achieving Information Superiority across the full spectrum of operations. These information technology systems provide the capability for getting relevant information to the right place at the right time on the modern battlefield.

Modernizing our Army to be an agile, lighter, and more deployable force capable of maintaining IS will require funding a robust Command, Control, Communications, and Computers (C4) architecture specifically designed to meet the dramatically increasing information and data requirements of the modernized force. Achieving IS in the 1st Cavalry Division, the Counterattack Corps (III Corps), the Interim Brigade Combat Teams (IBCTs), and Army Special Operation Forces (ARSOF) units remain a top Army priority. A broad overview of some key programs and their relationship to our modernization goals are discussed in the following paragraphs.

The Army Battle Command System (ABCS) concept provides for the overall integration of digital C2 systems found at all echelons from theater level to the weapons platforms. The components that fuse and display the common picture are the Global Command and Control System–Army (GCCS-A), Maneuver Control System (MCS), and the Force XXI Battle Command Brigade and Below System (FBCB2). Additionally, the

linkage of these C2 systems (via the Tactical Operations Centers (TOCs) and Standardized Integrated Command Post System (SICPS) programs provides our tactical forces with a functional C2 suite that significantly reduces the logistical footprint. Currently, MCS and FBCB2 are being equipped to IBCTs and III Corps units, to include appropriate Reserve Component (RC) units at echelons above division. We must continue our S&T investment to improve their capabilities and transition into the Objective Force.

The terrestrial and switching backbone of our communications infrastructure network represents our single greatest deficiency in transforming from our Legacy Force. The Army Common User System (ACUS) modernization program recapitalizes our existing Mobile Subscriber Equipment (MSE) and Tri-Service Tactical Communications (TRI-TAC) switching network systems for the known requirement of today's forces. At the lower level, the Tactical Internet (TI) comprises the communications infrastructure for the transfer of information across the battlefield. The Enhanced Position Location Reporting System (EPLRS) and Single Channel Ground and Airborne Radio System (SINCGARS) are currently the communications systems of the TI. With the ever-increasing voice and data requirements, this emerged as another area requiring improvement to maintain IS and applicability into the future.

To extend the communications links beyond line-of-sight (BLOS) and obtain the critical reachback capability, the Army will rely on satellite communications (both government owned and commercial lease). Our current Defense Satellite Communications System (DSCS) ground terminals (AN/TSC-85s and AN/TSC-93s) are antiquated and do not meet the deployability requirement of a transforming Force (Interim or Objective). Due to the critical importance of space-based communications, these legacy systems are being replaced by the Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T), and the Super High Frequency (SHF) Tri-Band Advanced Range Extension Terminal (STAR-T). The SMART-T and STAR-T will provide immediate improvements to our Legacy and Interim Forces. Additionally, we have a long-term investment in the Single Channel Anti-Jam Manportable (SCAMP) manpack terminal and the Global Broadcast Service (GBS). Focused and consistent investments in Science and Technology (S&T) that exploit technological development are the centerpiece for maintaining IS, which is crucial to our Modernization Program.

As we prepare for the Objective Force, our research and development (R&D) efforts must transform vast amounts of data into usable information and knowledge for the warfighter. Our network architectures and technical standards will continue to evolve. With the growing requirement for information and a more responsive force, the Warfighter Information Network-Tactical (WIN-T) will increase the security, capacity, and speed of information distribution; support split-based operations; and increase mobility with a smaller logistical footprint. In concert with the other Services, the Joint Tactical Radio System (JTRS) will become the Army's primary tactical radio for mobile communications. This lightweight, multiband radio will provide embedded voice, data, and video

teleconference capability. Additionally, it will replace multiple legacy radio systems within the Army's inventory and will be a key component of the TI. The future Multiband Integrated Satellite Terminal (MIST) will replace the STAR-T and SMART-T to provide the warfighter with BLOS and reachback communications.

## Discussion of Key Equipment

### *Warfighter Information Network-Tactical (WIN-T)*

**Description.** WIN-T is the next generation terrestrial communications and information system, which currently consisting of TRI-TAC and the MSE systems. WIN-T provides simultaneous voice, data, and video services.

**Operational Requirement.** WIN-T is the Army's objective tactical digital communications network that will provide tactical networking for the deployed warfighter.

**Program Status.** WIN-T will go through a source selection evaluation board in FY02, award two contracts to define a detailed system architecture. Upon successful passing of its milestone B decision, the program will continue through its System Integration Phase of development. A milestone C decision is projected for FY07 with a full rate production awarded planned for FY08.

### *Army Common User System (ACUS) Modernization Program [Mobile Subscriber Equipment (MSE) and Tri-Service Tactical Communications (TRI-TAC)]*

**Description.** ACUS is the terrestrial communications and information system that currently consists of the TRI-TAC and MSE systems. Upgrades to the systems provide an increased capability to support voice, data, and video requirements in one of two ways— Tactical High Speed Data Network (THSDN) and technology insertion. The ACUS modernization efforts will support the Army's Transformation initiatives by inserting new technologies (Brigade Subscriber Node (BSN), battlefield videoteleconferencing, wireless LAN, and Network Operations Center vehicles (NOC-V)) into the Army's IBCTs.

**Operational Requirement.** ACUS modernization provides mobile, secure, survivable, seamless multimedia connectivity between all elements within the battlespace.

**Program Status.** The ACUS Technology Insertion is on track for fielding completion to the Counterattack Corps by 2004. Additionally, THSDN fielding to the remainder of the force was initiated in FY00 with completion anticipated in FY03.

### *Joint Tactical Radio System (JTRS)*

**Description.** JTRS will provide a family of affordable, high-capacity, modular

communications systems for line-of-sight (LOS) and BLOS command, control, communications, computers, and intelligence (C4I) capabilities for the warfighter. This system is being designed as a secure, multiband, multimode, software reprogrammable, digital communications system that will support the broad range of C4I requirements.

**Operational Requirement.** The system will maintain interoperability with legacy systems while advancing to future wireless communications technologies.

**Program Status.** The JTRS is currently within its system development and demonstration phase. Milestone C is scheduled for FY05, Operational Test and Evaluation is scheduled for FY06 and full rate production is planned for FY07.

### Enhanced Position Location Reporting System (EPLRS)

**Description**. EPLRS provides automated, secure, near real-time data communications and Position/Navigation (POS/NAV) services for the digitized force. EPLRS consists of a Network Control Station (NCS) and radio sets with embedded communications Security (COMSEC), which can be configured as vehicular, manpack and airborne units.

**Operational Requirement.** EPLRS provides commanders with highly reliable,

automated, secure, near-real-time data communications and POS/NAV services as the digital data backbone of Force XXI Battle Command Brigade and Below (FBCB2) and Battlefield Functional Areas (BFA). EPLRS, in conjunction with FBCB2, will provide the majority of the Army's input to the Common Tactical Picture (CTP) and the Common Operational Picture (COP).

**Program Status.** The Army will procure and field EPLRS to the Counterattack Corps, Force Package 1, and other high-priority users. Current EPLRS Army Procurement Objective (APO) is 12,896. Approximately 2,676 radios have been fielded.

### Single Channel Ground and Airborne Radio System (SINCGARS)

**Description.** SINCGARS provides commanders with a highly reliable, secure, easily maintained Combat Net Radio (CNR) that has both voice and data handling capability in support of C2 operations. SINCGARS, with the Internet controller, provides the communications link for the digitized force. The Advanced System Improvement Program (ASIP) models are of a reduced size and weight, providing further enhancements to operational capability in the TI environment.

**Operational Requirement.** SINCGARS will provide a highly reliable, secure,

easily maintained CNR that has both voice and data handling capability.

**Program Status.** A production delivery order will be awarded in 3QFY01 to procure Congressionally-directed assets for the ARNG and IBCTs. Approximately 229,778 radios have been fielded.

## *Defense Satellite Communications System (DSCS)*

**Description.**
DSCS provides super high frequency (SHF) wideband satellite communications supporting critical national strategic and tactical Command, Control, Communications, and Intelligence (C3I) requirements. DSCS supports the Army warfighter as well as Department of Defense (DoD) and non-DoD users, as approved by the Joint Staff/Commanders-in-Chief (CINCs) or by the Secretary of Defense (SECDEF). DSCS terminals are designed to operate with the DSCS and NATO satellites and to maintain the warfighter's ability to communicate back to the sustaining base during war and contingency operations.

**Operational Requirement.** DSCS provides high-capacity, inter- and intra-theater range extension support to Army and joint warfighters from Corps level and higher. The system is used at all levels of command from the National Command Authorities (NCA) to the tactical theater. The DSCS earth terminal's direct interface with SHF Tri-Band Advanced

Range Extension Terminal (STAR-T) is the warfighter's primary means of reachback communications in all levels of conflict.

**Program Status.** DSCS terminals and control centers are undergoing a modernization effort (selected upgrade).

## *Secure Multichannel Anti-Jam Reliable Terminal-Tactical (SMART-T)*

**Description.**
SMART-T is a transportable, tactical, satellite communications terminal that operates with the current MILSTAR satellite low data rate (LDR) (up to 2.4kbps) and medium data rate (MDR) (up to 1.544mbps) extremely high frequency (EHF) communications payload and the future advanced EHF (AEHF) constellation.

**Operational Requirement.** SMART-T provides protected communications for the in-theater range extension of the Army's MSE at echelons corps and below.

**Program Status.** The SMART-T has completed its Follow-on Test and Evaluation and is expected to begin full rate production of terminals in FY02. Fielding will continue through FY07.

## *SHF Tri-Band Advanced Range Extension Terminal (STAR-T)*

**Description.** STAR-T is a super high frequency (SHF) multiband multichannel satellite terminal. STAR-T is a self-contained, one vehicle communications

package capable of operating over commercial and military SHF satellites, and interfaces with commercial and military switching systems.

**Operational Requirement.** STAR-T will provide high capacity inter- and intra-theater range extension support at echelons above corps (EAC) and selected corps signal units. STAR-T will be the warfighter's primary means of reachback communications. STAR-T will ultimately replace aging ground mobile force satellite terminals (AN/TSC-85s/93s).

**Program Status.** STAR-T is currently in system development. In FY01, the Government terminated the contract with the initial vendor. The requirements remain valid, and the Army is executing a new strategy to meet the expeditiously meet the requirements in the most cost-effective manner.

### Force XXI Battle Command Brigade and Below System (FBCB2)

**Description.** FBCB2, mounted on a variety of platforms, provides situational awareness and C2 functionality to the warfighter. The system consists of FBCB2 hardware and/or software integrated into the various platforms at brigade and below, as well as appropriate division and corps slices (including RC elements supporting the Counterattack Corps) necessary to support brigade operations. The FBCB2 hardware consists of a computer employing commercial-off-the-shelf components in a ruggedized central processing unit case, display, and keyboard. FBCB2 integrates emerging and existing communications, weapon, and sensor systems on a single display. It interfaces with the Army Tactical Command and Control System (ATCCS) at brigade and battalion levels across all BFAs. FBCB2 is a subelement and key component of the ABCS.

**Operational Requirement.** FBCB2 is a joint interoperable, digital, battle command information system for brigade level and below commanders. It is designed to provide dismounted/mounted combat elements with near-real-time, integrated situational awareness information and C2 functionality. FBCB2 will enhance the ability of tactical commanders to better synchronize their forces, achieve agility, and gain a "feel" of the battlespace through improved situational awareness and better combat awareness reporting while on the move.

**Program Status.** FBCB2 is currently preparing for an Initial Operational Test and Evaluation in FY03. EMD models have been fielded to 4th Infantry Division and IBCTs will begin fielding this year.
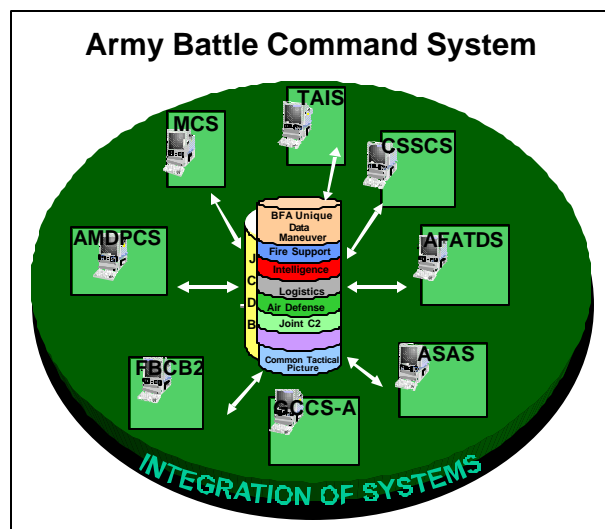
### Army Battle Command System (ABCS)

**Description.** ABCS is the Army's component of the Global Command and Control System (GCCS). It is a complex system of systems that provides the mechanism to receive and transmit information among the joint forces. ABCS consists of subsystem software that

provides specific support for the Battlefield Functional Areas, including the Maneuver Control System (MCS), All Source Analysis System (ASAS), Advanced Field Artillery Tactical Data System (AFATDS), Air and Missile Defense Planning and Control System (AMDPCS), Global Command and Control System-Army (GCCS-A), Combat Service Support Control System (CSSCS) and the Force XXI Battle Command Brigade and Below System (FBCB2). Additionally, common software products enable information sharing with other systems and provide situational awareness of the battlefield to every echelon. By integrating the ABCS components through common software products such as the Joint Common Database (JCDB), the common tactical picture can be viewed at any workstation and within the operator's specific requirements.



**Army Battle Command System**

**Operational Requirement.** Each of the ABCS subsystems and associated programs are essential to the digitization of the total force. The objective of ABCS is increased lethality, survivability,

operational tempo (OPTEMPO), and sustainability through information dominance, battlefield visualization, and situational awareness.

**Program Status.** The Army will continue to fund ABCS integration to support digitization of III Corps, IBCTs, and other high-priority users.

### *Maneuver Control System (MCS)*



**Description.** MCS is an automated C2 system that provides a network of computer terminals to process combat information for battle staffs. It provides automated assistance in the collection, storage, review, and display of information to support the commander's decision process. Both text and map graphics are provided to the user.

**Operational Requirement.** MCS provides an integrated picture of Fire Support, Air Defense, Intelligence and Electronic Warfare, and Combat Service Support to produce a common picture of the battlefield. It provides critical, time-sensitive information to shorten the decision-cycle process. MCS provides an automated, on-line, near-real-time capability for planning, coordinating, monitoring, and controlling tactical

operations. It is the force-level commander's information system.

**Program Status.** The MCS Block IV Program is in the Engineering and Manufacturing Development (EMD) phase scheduled for an Initial Operational Test and Evaluation (IOT&E) in FY03.

### Integrated System Control System (ISYSCON)

AN/TYQ-76A(V)2 ISYSCON



TSC(A), EAC AND CORPS SIG BDE AND DIVISION SIG BN
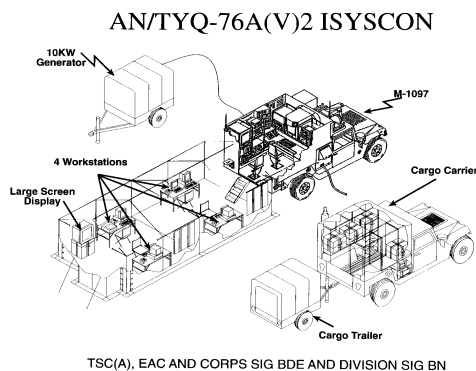
**Description.** ISYSCON provides an automated, theater-wide system to manage multiple tactical communications systems in support of battlefield operations. Additionally, ISYSCON interfaces with each BFA in the ABCS.

**Operational Requirement.** ISYSCON will provide centralized control of the data networks that interconnect all C2 systems and all weapon systems on the battlefield.

**Program Status.** The fielding of network management for III Corps elements is on track for 2004.

## Command, Control (C2) and Signal Systems Summary

Warfighting commanders require effective Command, Control and Signal Systems to fight and win our nations wars. In order to dominate the current and future battlefields, we must continue to invest wisely in future systems supporting the Objective Force, as well as continue our support our current and interim systems. We must continue the maintenance, selected upgrades, and modernization of our legacy systems. In most cases, these systems will transition to the Objective Force. Through balanced and realistic funding support, we will continue to support our current ability to command and control our forces, while developing technological solutions that will allow us to dominate the future battlefields.

C2 and Signal Systems are absolutely critical to the success of the objective force. While the priority is our Objective Force, our Interim Brigade Combat Teams and selected legacy force will also receive priority support. The key is to ensure the level of funding of our Information Superiority infrastructure is consistent with the combat systems it supports. This will ensure that Command, Control and Signal Systems will continue to serve as the cornerstone of our interoperable combat force for Army, joint and combined operations throughout the world.

## Intelligence and Electronic Warfare (IEW)

## Overview

Army IEW for today's Legacy and Interim Forces continues to be fully equipped to operate in the information dimension as a key member of the Army Team within Joint and coalition force environments. Army Airborne Reconnaissance Low

(ARL) and Guardrail/Common Sensor (GR/CS) platforms support indication and warning operations in Korea, counter-drug missions in SOUTHCOM, and Joint Chiefs of Staff collection missions in other theaters. Counter-Intelligence/Human Intelligence (CI/HUMINT) Information Management System (CHIMS) and All-Source Analysis System (ASAS) are employed extensively for force protection throughout the Balkans. Integrated Meteorological System (IMETS) is deployed throughout the force to provide weather effects information. IEW systems are actively employed in the air and on the ground in support of Homeland Defense and combat operations in the current war against terrorism, enabling commanders to assess and mitigate risk from an incredibly complex and diverse spectrum of threats.

## IEW Modernization in Support of Transformation

The fundamental mission for Intelligence, whether today or in the Objective Force, remains satisfying the commander's need for unambiguous, concise, accurate, and timely threat information. In the Objective Force, this mission will need to be conducted more rapidly and with greater fidelity, while operating in a strategic and operational environment that requires the rapid deployment of CONUS-based forces in response to crises.

Army intelligence in the Objective Force must operate within a national, Joint, and combined environment and will leverage the capabilities and expertise of the U.S. national intelligence community, allies, academia, media, and industry in order to provide commanders focused, near-certain knowledge, ensuring the commander's dominant understanding at the point of decision. This knowledge will be presented using the collaborative, analytical, and communications power of modern information technology.

For Army IEW, this mandates a fundamental change in our current approach to providing intelligence. The existing architecture of multiple ground processing systems, each aligned with either a specific intelligence discipline or a specific sensor, is no longer operationally or economically viable. While each of the current systems addresses a validated need, when viewed collectively as a comprehensive architecture or system they are too heavy to deploy rapidly and do not achieve the requisite integrated solution needed to achieve information dominance for the Objective Force commander on future battlefields. Objective Force IEW systems must be capable of distributed and collaborative reach operations with reduced footprint forward.

IEW modernization is therefore focused on migration of our current systems toward an interoperable network-centric construct with fewer, but more capable, sensors and processors. This reduction in the number of separate platforms will increase strategic deployability and tactical mobility, while decreasing in-theater footprint. However, even with a decreased presence in-theater, the fluid nature of ground combat dictates that some intelligence capabilities will always remain forward in order to provide dedicated near-real-time combat intelligence to the Objective Force commander in the close fight.

Today's intensive levels of global employment for Army forces, particularly in the aftermath of 11 September and the war on terrorism, requires robust IEW capabilities be maintained, and in some cases upgraded, for the Legacy and Interim Forces.

## Modernization Priorities

The top priority for IEW modernization is the migration of our current "stove-piped" intelligence processors to the Distributed Common Ground System - Army (DCGS-A). DCGS-A is a modular and scaleable family of multi-intelligence tasking, processing, exploitation, and dissemination (TPED) systems that will replace all current and future Army intelligence processing systems for national, Joint, and Army organic sensor data. DCGS-A will provide unambiguous intelligence information and targeting information and is a critical system for Transformation.

DCGS-A will be integrated with the All Source Analysis System (ASAS) intelligence fusion system, which provides automated intelligence analysis, battlefield visualization, management of IEW resources, and production and dissemination of intelligence to warfighting commanders and staffs. Components of DCGS-A and ASAS will be fielded to all echelons in the Army from theater down to battalion, enabling the rapid dissemination of the all source fusion picture of the current threat to forward combat maneuver commanders. ASAS is the IEW interface to the warfighting Army Battle Command System (ABCS) and to the Joint Global Command and Control System (GCCS).

Aerial Common Sensor (ACS) is the Army's next-generation airborne ISR collection platform, and is the next highest IEW modernization priority. ACS is the only purely Objective Force IEW system and is in the early stages of component advanced development. It will replace two legacy airborne ISR systems, and will begin fielding in FY09 in order to meet the timeline for the Objective Force. ACS will be a multi-intelligence collection system, and will provide responsive precision targeting data to the full range of Army organic weapon systems in support of the Joint Task Force or ground component commander. Airborne Reconnaissance Low (ARL), the Army's current premier multi-intelligence airborne ISR platform will serve as an operational test bed for ACS capability development.

Following close behind ACS in priority is the Army's Tactical Unmanned Aerial Vehicle (TUAV) program. TUAV provides dedicated and responsive surveillance and targeting information to the maneuver brigade, giving the tactical commander the ability to physically look over the next hill for the first time in the history of the US Army. The development of advanced sensors and extended range and loiter time will enhance the ability of UAVs to provide enhanced situation awareness and real-time targeting information for precision fires.

Prophet is the Army's Legacy-to-Objective ground SIGINT and MASINT sensor and Electronic Attack (EA) system. Prophet will replace four currently fielded legacy systems, while reducing footprint, manpower, and logistics tail. The objective system will provide enhanced situation awareness, battlespace visualization, target

development, and force protection in the division, brigade, and armored cavalry regiment areas of operation. Prophet will be capable of conducting both collection and EA on the move, enabling it to operate in close support to highly mobile combat maneuver forces throughout the full-spectrum of operations.

## Discussion of Key Equipment

### *Distributed Common Ground System –Army (DCGS-A)*

**Description**. DCGS-A is a family of systems and an integral component of the Army's intelligence, surveillance, and reconnaissance (ISR) networking strategy. DCGS-A will migrate disparate ISR systems into a joint common and interoperable multi-intelligence architecture to improve the ground commander's ability to react within the enemy's decision cycle. DCGS-A nodes located at each Army and joint echelon will task, process, exploit, and disseminate Army, joint, national, and coalition ISR sensor data and information in support of Objective Force and Joint Task Force operations. Operating in a secure collaborative, networked environment, DCGS-A products will be made available in near real-time via the Analysis and Control Element (ACE) and the All Source Analysis System (ASAS).

**Operational Requirement**. DCGS-A will allow the Army user to receive sensor data from available sensors, regardless of Service affiliation. Conversely, through the joint DCGS architecture (via DCGS-A or direct from the Army sensors), other Services will have access to Army sensor data and products. DCGS-A will provide robust single source/ multi-intelligence

data to the ACE for improved development of Intelligence Preparation of Battlespace, Offensive Courses of Action, Battle Damage Assessments Indications and Warnings and dissemination of these products to the warfighter.

**Program Status**. Army ISR processors including the Tactical Exploitation System (TES), Guardrail Common Sensor Information Node (GRIFN), Common Ground Station (CGS), Counterintelligence and Human Intelligence Workstation (CI & HUMINT WS), and the Unmanned Aerial Vehicle Ground Control Station/Tactical Control System (UAV GCS/TCS), will migrate into the common DCGS-A architecture. The DCGS-A program will employ a blocked-approach development and acquisition strategy to develop, demonstrate, and field improved system capabilities culminating with an objective capability fielding in FY08. The XVIII Airborne Corps will demonstrate a DCGS-A interim capability in FY03 and a multi-echelon DCGS-A capability will be fielded to III Corps in FY04.

### *The All Source Analysis System (ASAS)*



**Description.** ASAS is comprised of three major components: the Analysis and

Control Element (ACE), the Remote Workstation (RWS), and the Analysis and Control Team-Enclave (ACT-E). The ASAS ACE is the intelligence analyst's primary tool for fusing intelligence collected from multiple sources and then passes the correlated enemy picture to the commander and his staff. It disseminates the fused intelligence picture to the warfighter via the Army Battle Command System Local Area Net (ABCS LAN). It is located at the Corps/Division operations centers, EAC intelligence centers, and at Army staffs throughout a theater/joint command. The RWS is the warfighter's primary collateral intelligence source that also facilitates intelligence preparation of the battlefield (IPB), situation analysis, collection planning, and high-value target nomination. It operates primarily in a collateral environment down to the brigade level. A laptop version, ASAS-Light, operates and provides the fused intelligence at the battalion level. The maneuver brigade commander is also provided additional intelligence support via the ACT-E, a vehicle-mounted shelter containing two RWSs with integrated communications and LAN access capability. The ACT-E provides the commander a mobile, self-contained, rapidly deployable intelligence processing capability at the brigade and brigade forward.

**Operational Requirement.** ASAS is the IEW component of ABCS supporting the warfighter from theater to battalion. ASAS provides commanders with enemy situation awareness, targeting, ISR management, collaboration, non-structured threat analysis, predictive analysis, and force protection. In a networked environment, it automates IEW collection/mission management, high-value target nomination, IPB, and fuses inputs from multiple intelligence sources to develop the threat picture and "gray" environment (non-governmental organization, refugees, etc.) for the commander's overall situational awareness. This results in a timely, accurate, and common relevant enemy picture throughout all echelons on the battlefield.

**Program Status.** ASAS Block II is in EMD with several components in full rate production. The RWS, ACT-E, and ASAS-Light have completed operational testing, and fielding began in FY99, FY00, and FY01, respectively. The ASAS ACE will complete operational test in FY03, with fielding to start in FY04. The ASAS Block III development will start in FY04.

### *Aerial Common Sensor (ACS)*

**Description.** ACS is a critical Objective Force system that satisfies the Army's requirement for a worldwide, self-deployable airborne ISR asset that can begin operations upon arrival into theater. The wide area surveillance, precision targeting, and use of the DCGS-A for the ground station component makes ACS relevant throughout the entire spectrum of operations. ACS will provide commanders at every echelon the tailored, multi-sensor intelligence required for mission success. The air platform has not been selected; however, sensor payloads include COMINT, ELINT, IMINT, and MASINT, such as, EO, IR, SAR, MTI, multi- and hyperspectral imagery sensors.

**Operational Requirement.** ACS is the objective airborne multidiscipline intelligence platform for corps and EAC

military intelligence brigades. ACS will merge the capabilities of GRCS and ARL into a multifunctional system (SIGINT, IMINT and MASINT). ACS will provide the precision-targeting data needed by future deep-strike weapon systems and the Objective Force. ACS will support early-entry operations and forward-deployed forces by providing timely indications and warning, dominant situational awareness, battle management, and precision targeting capabilities across the full spectrum of operations.





**Program Status.** An Analysis of Alternatives was completed in FY01. ACS is currently transitioning from the concept exploration phase to the component advanced development phase (CAD). Milestone B is scheduled for 4QFY03. IOT&E and Milestone C are scheduled for FY08. FUE is scheduled for FY09 in order to meet timelines for IOC of the initial Objective Force unit.

### The Tactical Unmanned Aerial Vehicle (TUAV)

**Description.** Each Shadow 200 TUAV system consists of three Shadow 200 air vehicles, two Ground Control Stations (GCS), one portable GCS, and four remote video terminals that can provide near-real-time video to commanders on the ground. The Shadow 200 TUAVs currently have an on-board electro-optic (EO)/infrared (IR) sensor payload. Objective payloads will include advanced EO/IR, all-weather synthetic aperture radar (SAR) and moving target indicator (MTI), and signals intelligence (SIGINT) sensors. The threshold range is 50km with an objective range of 200km and an on-station endurance of four hours. The threshold payload is 60lbs with an objective capacity of 100lbs. OPTEMPO requirements a threshold of 12 per 24-hours and an objective of 18 per 24 hours.

**Operational Requirement.** The Shadow 200 TUAV is the ground maneuver commander's primary day/night Reconnaissance, Surveillance, and Target Acquisition (RSTA) system. It provides the commander with enhanced situational awareness, target acquisition, battle damage assessment, and enhanced battle management capabilities.

**Program Status.** An EMD contract was awarded in December 1999 with four systems delivered to support testing and Initial Operational Test and Evaluation in FY01. An LRIP contract awarded in Mar 01 will deliver four systems between November 2001 through December 2002. Several unrelated incidents with the system in Apr/May 01 caused IOT&E to slip by one year. In December 2001, the Army will decide whether to pursue a second LRIP purchase of six systems. First unit equipped will be declared for 1st Brigade, 4th Infantry Division after IOT&E is complete in April 2002. The Initial Operational Capability will be declared upon fielding of the third system, which will be in August 2020. The Army Acquisition Objective is 83 systems. Current funding provides for 60 systems.

### *Prophet*

**Description.**
Prophet provides expanded frequency and area SIGINT coverage of the battlefield for situational development and awareness and force protection operations. Prophet will support on-the-move and dismounted operations. Programmed block improvements include electronic attack, advanced signals, and MASINT capabilities. Prophet replaces four more costly legacy systems. Prophet gives the commander a dedicated, dynamically retaskable asset. Prophet allows the tactical commander to visually depict and understand his battlespace and gain situational awareness on the

battlefield of the future. An Engineering, Manufacturing, and Developmental (EMD) version of Prophet was successfully employed in support of Operation ENDURING FREEDOM, demonstrating the utility of using a highly mobile ground sensor system for enhanced situational awareness and force protection.

**Operational Requirement.** Prophet provides actionable intelligence (SIGINT/MASINT), in support of IBCT and brigade commanders throughout the entire spectrum of operations. It gives the commander a comprehensive picture of electronic emitters in his battlespace and provides the ability to collect, locate, and electronically attack selected emitters.

**Program Status.** Prophet Block I passed IOT&E in December FY00, completed Milestone III in March FY01, and has entered FRP, with initial fielding scheduled for Sep 2002. The Prophet Air program has been restructured as the Division TUAV SIGINT Payload (DTSP). DTSP will provide enhanced situational awareness to the division commander by electronic mapping of threat emitters. DTSP is currently in the Concept Exploration Phase with an expected FUE of FY09.

## IEW Summary

The Army is developing a knowledge-centric warfighting concept. Commanders have always wanted to base their decisions on near-perfect knowledge, but rarely was such knowledge immediately available forward at the point of decision. In the past, the lack of perfect knowledge was compensated for by mass, technology,

sufficient armor to survive meeting engagements, and detailed knowledge about our opponents' operational and tactical patterns. The transcendent need for speed of action, rapid deployability and full spectrum dominance mandates a transformed Army that stakes its success on dominant understanding of the battlespace, gained through dominant knowledge. Superior intelligence, surveillance, and reconnaissance (ISR), Electronic Warfare (EW) and cutting edge Information Operations (IO) are integral to achieving that dominant knowledge in the Objective Force.

IEW supports the Army's Transformation strategy by integrating national, joint, theater, and other Service intelligence systems into a seamless system-of-systems to enable combat overmatch in the near term, while developing capabilities for the Objective Force that will provide near-perfect intelligence and dominant knowledge at the point of decision. Selected upgrades are being applied to legacy systems in order to maintain technical relevancy, particularly in light of the current war against terrorism, but IEW modernization priorities remains focused on systems that will support the Objective Force.